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Activity 3

In game_agent.py there are a few types of searching approaches that includes, iterative deepening, standard minimax and minimax with alpha beta pruning. Iterative deeping is where it performs a search which a fixed distance and it is being called repeatedly starting with distance 1. Alpha-beta pruning is a procedure to reduce the amount of computational and searching time during minimax. Standard minimax is a two-pass search, where one pass is used to assign heuristic values to the nodes at the ply depth while the other is used to propagate the values up to the tree. Meanwhile the alpha-beta search proceeds in a depth first fashion.

This project uses a version of isolation where each agent is restricted to L-shaped movement, similar to chess game, on rectangular grid. The agents will be able to move to any open cell on the board tat is 2 rows and 1 column or 1 row and 2 columns and 1 row away from their current location on the grid. However, any movements on the edges will be blocked but the agents will be able to "skip" occupied or blocked spaces just like chess game for the knight.

There is fixed time limit for each turn to search for the best move and make the action. If the time limit exceeds, the agent's turn will be forfeited and the opponent wins the game.

Group Results :

kaiwen : 86.43

vincent : 72.86

vernsin : 72.14

eleysa : 69.29